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CARGO TANK MANUFACTURERS ASSOCIATION
6825 EAST ROSECRANS AVENUE • PARAMOUNT, CALIFORNIA 90723
TELEPHONE: (310) 634-1245 FAX: (310) 634-0143

RSPA-1996-12680-1

August 2, 1996

Alan Roberts
Associate Administrator, Office of Hazardous Materials Standards
Research & Special Programs Administration
US Department of Transportation
400 Seventh Street, S.W.
Washington, DC 20590

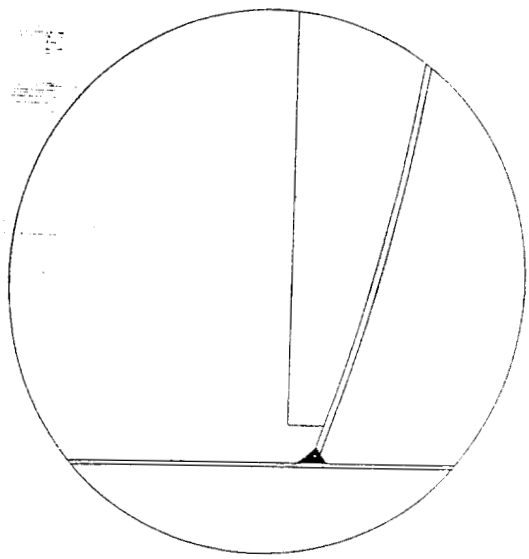
Dear Mr Roberts:

In response to the enclosed letter by Hattie Mitchell dated June 27,1996 to Mr. Alec Rack we would like to petition your office to consider the following suggestion in respect to the enclosed support.

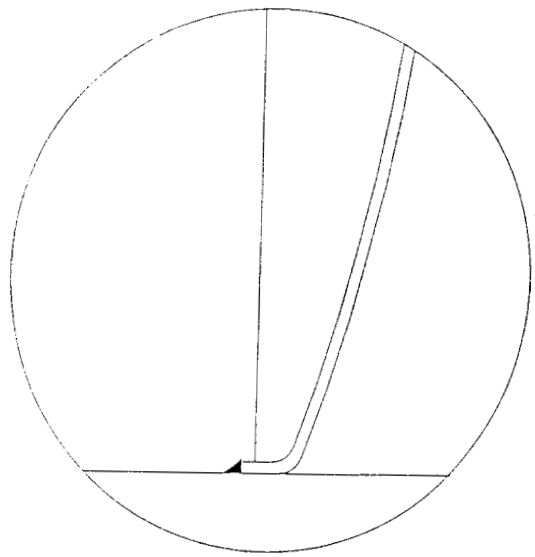
Weld-It Company recently completed the scraping of eight or nine aluminum trailers for a customer of ours. Every one of these two compartment units was built with all internal heads and baffles being flangeless. In virtually every instance the internal head was cracked where it was stiffened, and in several cases that crack was leaking between compartments. We also observed an above average amount of cracking and repairs of cracks on flangeless baffles. Therefore we feel that if RSPA is going to allow these heads be used for new aluminum tanks, that an internal inspection should be required annually

From an engineering aspect, these heads are much less forgiving with regards to stress distribution. The flange on a standard ASME head allows for a considerable amount flexural relief when minor displacements are induced on a tank, acting like a shock absorber. This small, but significant amount of elasticity becomes increasingly important when stiffeners are introduced. With today's regulations requiring a 5 psi structural integrity test, virtually all aluminum cargo tanks will be built with stiffeners, and without a flange to attach this stiffener to, it must be cut off short of the tank shell. (See drawings below) By leaving this small width of head/baffle between the stiffener

and shell the head is subject to intense localized fatigue loadings as the tank is exposed to minor deflections like those seen in it's everyday operation, will create fatigue cracks in the shell and head/baffle. We have seen this same phenomenon countless times during our 50+ years of operation here. Therefore we respectively submit that you seriously look into the matter of requiring an annual internal inspection of all specification 406 tanks with flangeless heads.



Standard Stiffened Flangeless Head



Standard Stiffened ASME Head

Cargo Tank Manufacturers' Association

Raymond Schaffer
President

7/11/96

U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh Street S.W.
Washington D.C. 20590

JUN 27 1996

Mr. Alec Rack
Executive vice-president
New Progress Incorporated
402 E. Progress Street
Arthur, IL 61911

Dear Mr. Rack:

This is to further reference your January 1, 1995 letter and the response this office provided concerning the manufacture of a DOT 406 cargo tank with flangeless heads under 49 CFR 178.346-1.

In our response, we stated that a cargo tank constructed with flangeless heads is not in accordance with the requirements in Hazardous Materials Regulations (HMR; 49 CFR 171-180) or the American Society of Mechanical Engineers (ASME) Code. However, after further review and analysis of the HMR and the ASME Code, it is our position that flangeless heads can be installed on a DOT 406 cargo tank motor vehicle, provided certain conditions are met. The attached guidance sheet supersedes any previous clarification provided on this issue.

I hope this information is helpful. If we can be of further assistance, please contact us.

Sincerely,

Hattie L. Mitchell

Hattie L. Mitchell, Chief
Exemptions and Regulations Termination
Office of Hazardous Materials Standards

Enclosure